

An encouraging word for U of T inventors was heard at the May 15 Planning & Resources Committee meeting 2

With the help of human subjects, researchers are learning more about the elderly, criminal cases, and heart attacks 3

Sleuthing for historic scientific apparatus, museologist Joy Smith turns up the darnedest things 4

From refuse to riches — this new furnace converts dust to steel and may well start a revolution in the smelting industry 5

Pimlott to be honoured by Waterloo

Professor Douglas Pimlott, Department of Zoology, Faculty of Forestry & Landscape Architecture, and Innis College, will receive an honorary doctor of environmental studies degree from the University of Waterloo on May 26.

Prof. Pimlott's teaching at U of T has been primarily in ecology, various aspects of resource management, and environmental issues.

Last year he received the University of Toronto Alumni Association's second annual Alumni-Faculty Award for distinction in his discipline and for service to the University and to the community.

Construction cut won't affect us

A few weeks ago, in the process of announcing that it was reducing the proposed increase in OHIP rates from 37 to 18.75 percent, the provincial government disclosed that it hoped to make up the difference through a variety of means, including a \$4 million cutback in spending on the construction of university facilities.

The decision will not affect construction at U of T, we are informed by reliable sources in Simcoe Hall.

Wintario and Update sponsor Chinese lectures

A recent series of lectures on the culture and civilization of China presented by the Department of East Asian Studies was sponsored by matching grants of \$1,600 from Wintario and the University's Update campaign.

This is the first time that a Wintario grant has been matched by funds from Update, according to the Department of Private Funding.

Lecture topics included: "Broadcasting and Humour", "The Trend in Chinese Art", and "The Chinese in Canada: A History". All lectures were given in Cantonese.

The series was organized by Gilbert Fong, a PhD candidate at U of T, and was successful in making the neighbouring Chinese community more aware of what the University has to offer it, reports the department chairman, Professor J.S. Brownlee.

Summer sports at Hart House

Hart House has summer programs available for members interested in the sporting life. For tennis buffs, the Wycliffe College court will be open daily until Sept. 1. For underwater swimmers, the Underwater Club will hold several open dives for registered National Association of Underwater Instructors divers. Details about these programs and information about the others is available from the program office, telephone 978-2447.

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Bulletin

What to give a retiring President

Mismatched running shoes, a four-legged milking stool, and a vegetable corsage



"A word of advice, John," said Frank Iacobucci. "In future, whatever the dilemma, whatever the question, whatever the problem — let Gay handle it."

The vice-president — internal affairs, who represented the administrative staff, was one of several speakers who paid tribute to retiring President John R. Evans and his wife, Gay, at a reception in their honour on May 13 in the Great Hall of Hart House. His gift to Dr. Evans was a book, *Jokes and Aids in Public Speaking*.

The occasion had a decidedly agricultural theme. Dr. Evans, who was described by Governing Council chairman Marnie Paikin as "a friendly giant of a farmer", sported a colourful,

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Majority principle rejected:

equivalent lay voice on Academic Affairs to be retained

There will be no absolute majority of academics — or of any other constituency — on the substantially larger Academic Affairs Committee when the committee is reconstituted, probably sometime next fall.

At its meeting on May 18, the Governing Council voted in favour of all but one of the Executive Committee's recommendations about the reformation of the University's unicameral governing system. It defeated a recommendation that "the regulation prohibiting an

absolute majority from any category of member be rescinded", while approving a closely related one, that "the membership of the Academic Affairs Committee be increased substantially to permit an expansion of expert viewpoint on academic issues".

The result of the two votes is that, contrary to the spirit of the second recommendation, though deans and directors of the various academic faculties, divisions, and departments — or their representatives —

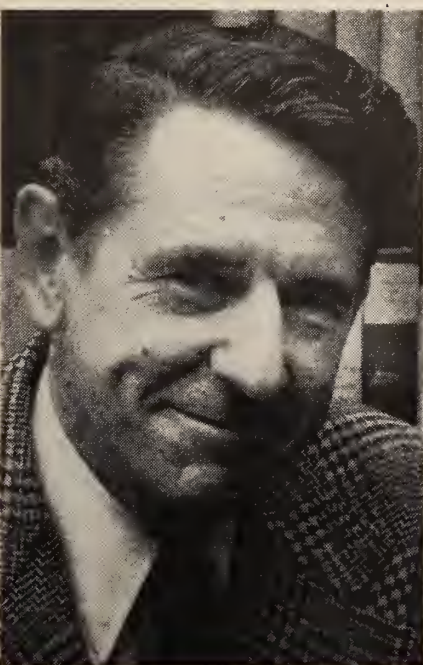
may now sit on Academic Affairs, an equivalent number of non-academics will also have to be appointed to the committee. President John Evans did allude to one other possibility when he suggested that the working group that is bringing ideas on unicameralism forward to the Executive Committee "look at what kind of species deans and directors are".

The council also voted in favour of these recommendations:

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Human research subjects

are protected at U of T by subcommittee that weighs science and ethics



Professor Gordon Watson, Centre of Criminology

by Norma Vale Christie

The advances in knowledge that have led to the high standards of medical care we often take for granted have depended heavily on the use of human beings as the subjects of research. Since the staggering revelations of the Nuremberg trials at the end of the Second World War, when the world learned of doctors using concentration camp prisoners as guinea pigs for medical research, the international scientific community has made many attempts to provide a code of ethical standards for research on human subjects.

More contemporary incidents involving research that abused the rights of human subjects, along with hefty settlements in medical research malpractice suits in the United States, have combined to make the need for formal guidelines that much more imperative, says Professor Gordon Watson, head of U of T's Centre of Criminology. "Apart from the legal implications," adds Watson, "foundations want to

support only good research, well done, that does not victimize its subjects."

In response to this need, the federal government's Medical Research Council (MRC) has published *Ethical Considerations in Research Involving Human Subjects*, a report that includes new guidelines to be followed by all institutions receiving MRC funds for research involving human subjects.

One of the report's recommendations is that all research institutions establish ethics review committees, comprised of representatives of both the scientific community and the lay public. Ethics review committees have become fairly common, particularly at institutions with strong medical schools, but U of T broke new ground in 1966 when it established the Human Experimentation Subcommittee of the Research Board, to create policy and oversee the process of ethical review.

"U of T has tended to lead the whole research community in the general concern for ethical problems," says Watson, who

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Job Openings

Below is a partial list of job openings at the University. Interested applicants should read the Promotional Opportunity postings on their staff bulletin boards, or telephone the personnel office for further information. The number in brackets following the name of the department in the list indicates the personnel officer responsible. Please call: (1) Sylvia Holland, 978-6470; (2) Penny Tai-Pow, 978-5468; (3) Manfred Wewers, 978-4834; (4) Ann Sarsfield, 978-2112; (5) Beverley Chennell, 978-7308.

Accountant I (\$9,000 — 10,590 — 12,180)
Guidance Centre (1)

Postal Clerk (\$8,180)
Post Office (5)

Laboratory Technician II (\$11,010 — 12,960 — 14,900)
Botany (1), Physiology (2), Pathology (4), Best Institute (2)

Research Assistant (\$9,900 — 11,650 — 13,400)
Physics (1)

Administrative Assistant I (\$9,900 — 11,650 — 13,400)
Research Administration (1)

Administrative Assistant II (\$12,860 — 15,130 — 17,400)
Faculty Office, Arts & Science (1), Continuing Studies (2)

Program Adviser (\$11,570 — 13,620 — 15,660)
Hart House (5)

Administrative Assistant III (\$15,820 — 18,620 — 21,410)
Academic Services, Faculty of Medicine (4)

Biostatistician (\$14,990 — 17,930 — 20,270)
Preventive Medicine & Biostatistics (4)

Draftsman III (\$13,500 — 15,890 — 18,270)
Physical Plant (3)

Programmer III (\$15,820 — 18,620 — 21,410)
Computer Centre (3), Computer Research Facility (3)

Programmer IV (\$19,490 — 22,930 — 26,370)
Physics (1)

PhD Orals

Since it is sometimes necessary to change the date or time of an oral examination, please confirm the information given in these listings with the Ph.D oral office, telephone 978-5258.

Tuesday, May 30

Gerald Kukan, Department of Anthropology, "A Technological and Stylistic Study of Microliths from Certain Levantine Epipaleolithic Assemblages." Thesis supervisor: Prof. H. Schroeder. Room 111, 63 St. George St., 2 p.m.

Wednesday, May 31

Ronald Edmond Parducci, Department of Educational Theory, "The Psycho-social Stressors Affecting the Aged's Phenomenological Self as Studied Through the Self-Report Relative to Learning." Thesis supervisor: Prof. L. Davie. Room 111, 63 St. George St. 2 p.m.

Friday, June 2

Kristin M. Brady, Department of English, "The Short Stories of Thomas Hardy: A Study by Volumes." Thesis supervisor: Prof. M. Millgate. Room 111, 63 St. George St., 10 a.m.

Shamim Ahmed Sheikh, Department of Civil Engineering, "Effectiveness of Rectangular Ties as Confinement Steel in Reinforced Concrete Columns." Thesis supervisor: Prof. S.M. Uzumeri. Room 309, 63 St. George St., 10 a.m.

Friday, June 9

Wendy Ann Donner, Department of Philosophy, "John Stuart Mill's Concept of Utility." Thesis supervisor: Prof. L.W. Sumner. Room 111, 63 St. George St., 2 p.m.

Monday, June 12

Roy J. Shegelski, Department of Geology, "Stratigraphy and Geochemistry of Archean Iron Formations in the Sturgeon Lake-Savant Lake Greenstone Terrain, N.W. Ontario." Thesis supervisor: Prof. S.D. Scott. Room 309, 63 St. George St., 10 a.m.

David W. Oyler, Department of Philosophy, "Michael Polanyi's Philosophy of Commitment in Science." Thesis supervisor: Prof. G.B. Payzant. Room 111, 63 St. George St., 2 p.m.

International Congress

Government assistance is available to persons undertaking to invite an international congress to meet in Canada. Conference Management Associates will provide assistance in concert with appropriate agencies to individuals who wish to develop an effective invitation programme.

This includes realization of receptions and inspection visits by site selection committees, evaluation of possible competitive invitations, development of a formal presentation to the head organization, and development of attractive, well-documented support materials. Travel assistance may also be provided.

For further information contact
Conference Management Associates
191 College St. (at King's College Rd.), Toronto, M5T 1P7
Telephone (416) 979-1111

No policy for incidental fees Academic Affairs Committee decides

Having requested Vice-President & Provost Donald Chant to draw up a policy proposal on academic incidental fees, and after debating the issue at three meetings, the Academic Affairs Committee rejected the proposal May 11 and voted against sending it back for revision. As a result, requests to levy academic incidental fees will continue to be considered individually by the committee on an *ad hoc* basis.

In other business, the committee approved a request from the Faculty of Arts & Science to establish an economics and mathematics co-requisite for COM100Y (financial accounting).

Budget cutbacks have necessitated reducing enrolment in the course by about 260 students, the committee was told by Taylor Gilbert, associate chairman (commerce), Department of Political Economy. The course is required by all commerce and finance students and by many chartered accountancy students, but is also taken by those in unrelated disciplines. Prof. Gilbert said he hoped the establishment of co-requisites would "discourage dabblers". Over the past nine years,

he said, enrolment in the course has risen from 214 to 1,674.

Also approved by the committee was a proposal requiring candidates for the PhD in library science to have "an adequate reading knowledge of a language other than English. Normally this language would be French, but, with the permission of the graduate department of library science, another language may be substituted in the light of research to be undertaken for the thesis." The requirement would come into effect for students applying to enter in September 1979 and would have to be completed by the end of the second year of residence.

A recommendation from the School of Graduate Studies to award a posthumous PhD in electrical engineering to Rawdon Montgomerie Taylor was approved.

Approval was also given to proposed changes in the constitution of the Faculty of Medicine and to the Faculty of Law's annual curriculum report for 1978-79.

The next meeting will be held May 25.

Inventors to be encouraged under policy adopted by Planning & Resources

A proposed revision of the University Patent Policy (to be renamed the University Inventions Policy) was approved by the Planning & Resources Committee May 15.

Contained in the Research Board's *Patent Review Task Force Report*, the new policy proposes a structure for an inventions foundation that would encourage University faculty to develop inventions from their research; defines the rights of the inventor; and changes the shared revenue arrangements between the University and the inventor.

The latter issue was the most contentious in the report as it recommended that an inventor be entitled to 50 percent of revenue, in excess of costs, with the remaining 50 percent to be used by the University "to support research in the department or division of the University in which the invention was made".

The task force recommendation was amended, with the stipulation that when revenue rose *above \$100,000*, the inventor's share would drop to 20 percent, and the revenue received by the University would be used, *directly or indirectly* to support research in the departments, division, or *sector* of the University in which the invention was made.

(Under the present patent policy, an inventor's share of the net proceeds does not exceed 35 percent as 15 percent is allocated to the Office of Research Administration for future patent use and 50 percent is for general University use.)

The amendment was proposed, said Professor Harry Eastman, vice-president — research & planning, to make the proposed inventions policy compatible with the University's copyright policy, which specifies that the University's share of the revenue increases when the revenues exceed a certain amount; to make it clear that the University's share of the income would be used as general University income; to indicate that the University's support for research was both direct and indirect; and to recognize that since some inventions may be made inter-departmentally or inter-divisionally, revenue received by the University should in some cases be used to support research in a particular sector of the University.

Teaching staff representative Professor Stewart Lee opposed the 20

percent limitation, calling it an "artificial impediment" in the path of a potential inventor.

"If we are going to encourage people to develop their ideas, to allow themselves and the University to capitalize on them, there should be no breakpoint," he said. "This amendment smacks of fear that someone will make a lot of money." In fact, he added, there is little chance of anyone getting rich from an invention.

"In recent years, not one invention that has gone through the University has achieved the \$100,000 level. I am told that one invention in 100 is patentable; one in 1,000 is exploitable; and one in 10,000 is successful."

Agreeing with Lee was Professor Adrian Brook, chairman of the Research Board, who told Planning & Resources that since the development of a highly successful invention is a "problematic" process, an inventor should be given as much encouragement as possible to follow through, or many ideas "would fall by the wayside".

Alumnus representative John Whitten argued that the proposed financial arrangements of the new inventions policy would give inventors "a substantial increase over what they would be entitled to if they were in industry". He also said that the 20 percent breakpoint might act as an incentive to the University to develop and market inventions, because it would get a "bigger pay-off".

The next meeting of Planning & Resources is scheduled for June 12.

And promotion is the father . . .

"The idea that the world will beat a pathway to the door of the inventor is certainly not true now, and probably never was. Successful inventions usually require five to ten years of diligent effort from the inventor and his associates in the development and promotion of the invention before financial returns can be expected. Inventors who are unwilling or unable to devote time and effort to this crucial aspect of the inventive process are unlikely to see their invention used."

— *extracted from the Patent Review Task Force Report*

is chairman of the subcommittee. "The MRC guidelines are part of the trend to which the University contributed."

The 13 members of the subcommittee, made up of staff from the Faculties of Law, Medicine, Nursing, and Dentistry, the Departments of Psychology, Anthropology, and Philosophy, and the Office of Research Administration (ORA), meet three or four times a year to set policy. ORA is responsible for ensuring that the policy is carried out. Every proposal for research involving human subjects is reviewed by ad hoc committees established by ORA.

The person who participates as a subject of research submits to procedures that may benefit mankind, but may also involve unknown risks for the subject.

This uneven distribution of risk and benefit, says the MRC report, raises basic ethical concerns that arise from the moral convictions of society. They must be considered each time the use of human subjects in research poses a potential infringement of such rights.

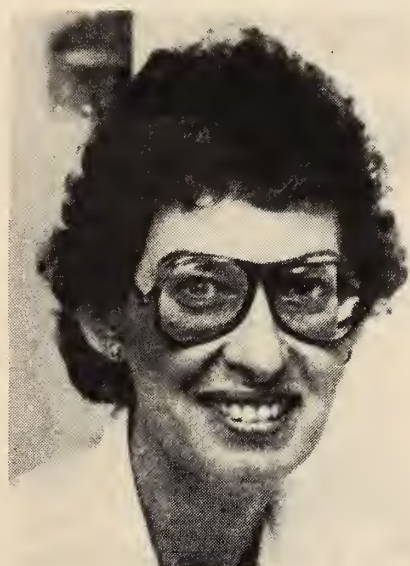
The procedure to ensure the implementation of ethical standards for research on human subjects evolves in three stages. In the first, the investigator develops a research protocol with both a view to the needs of science and to the ethical standards of society.* In the second, an ethics review committee examines the protocol to see that it meets ethical standards and decides whether the research should be approved. In the third stage, potential subjects are asked to consent to take part in the experiment, and the research is carried out. In contrast to the simplicity of the process are the complex ethical questions that must be weighed.

* A protocol is a who, what, why, where, and when of proposed research. Some information normally included in a protocol is a statement of the purpose of the research, a description of the procedures to be used and a description of the information sought and what the sources will be.

One of the major ethical dilemmas of research on human subjects is the evaluation of risks and benefits. It is generally agreed that research is ethical only if the benefits outweigh the risks, says the MRC report, but the degree of risk and benefit is often difficult to measure. It must be established that the research is scientifically valid, the use of human subjects essential, and the risks to the subject minimized without jeopardizing the scientific validity of the research.

According to Prof. Watson, research involving exceptionally high risk is rarely undertaken.

Pregnant women and fetuses together make up a subject group that poses extra ethical considerations, says the MRC report. Since a pregnant woman and the fetus she carries are interdependent, risk and benefit have to be calculated for both. As a general rule, proposals for research with pregnant women are "pretty conservative" and involve minimal risk, says Barbara Merkens, who represents ORA on the U of T subcommittee. Pregnant women



Barbara Merkens, Office of Research Administration

are almost always excluded from drug trials, for instance. Research involving a procedure of risk to a fetus is only carried out when circumstances for the fetus are "desperate" and when the procedure might prevent serious damage.

The requirement that those who agree to participate as subjects in research do so of their own free will, armed with all the information they need in order to give informed consent, is another crucial component of ethically acceptable research.

"A subject has given a proper consent when he has freely agreed to serve in the research on the basis of well understood, accurate, and complete information as to its nature, objectives, risks and benefits," states the MRC report.

Although this is the ideal, many factors come into play that can affect the ability of the subject to give free, informed consent.

For example, investigation of children's diseases requires children as subjects. Since a minor cannot give informed consent, responsibility lies with parents or guardians. Until recently the subcommittee has accepted this procedure, says Watson, though questions are now being raised in legal circles as to whether parents or guardians in fact have the right to consent on behalf of the children. Merkens says, "We can live with the consent procedure as it is, always providing the research procedures are of direct benefit to the child."

Groups such as prisoners, or students, who may appear to be ideal subject populations for research, are under pressures, either real or imagined, that tend to coerce them into consenting to serve as research subjects. Since the possibility exists that a prisoner may subject himself to research in the hope of getting better treatment, U of T does not use prisoners in research. Students are used, although they must clearly be volunteers not involved with the investi-

gator and must understand that if they decline to participate they will in no way be penalized.

The most obvious case in which a person is unable to give informed consent is an experiment in which it is essential that he be unaware of the nature of the research, or even that he is the subject of study. The MRC report says that research of this kind requires scientific justification "of the highest order" and should not be undertaken unless the risk to the subject is negligible. Furthermore, a subject must be fully informed as soon as possible of the aims of the research.

"In certain types of research where it is crucial that the information obtained be of a spontaneous nature, there must be some degree of concealment," says Watson. "However, there are some kinds of research that shouldn't be done at all if they can only be done by deceit."

The MRC guidelines echo Watson's conviction: "Good science is not necessarily good ethics . . . Moral considerations impose certain limitations upon medical research. Not everything that can be done ought to be done; not everything that is expedient is right. These limitations virtually always override all other considerations."

To Professor Watson, the ethical considerations governing experimentation with human subjects should go beyond the "minimum question of (human) rights".

"It is also the subjects' right to understand the purpose of the research, and their right not to feel they are being manipulated."

"We must make them feel they are more than participants, but also co-workers in the enterprise. We can only undertake this research because someone out there is willing to let us. They trust us and we had better be able to meet them half way."

"If we don't, there is no reason anyone in the world should co-operate with us."

'Consent to participate in research should always be freely given'

About 350 research proposals involving the use of human subjects go through ORA every year. The bulk of proposals come from the Faculty of Medicine, but such other areas as the Faculty of Social Work, the Departments of Psychology and Anthropology, and the Centre of Criminology are also represented.

A committee is established to review each proposal, composed of a lay person from the University chosen by ORA, and two specialists from the researcher's department who are familiar with the work, but independent of the investigator. For a medical proposal, the specialists would be in the Faculty of Medicine and the lay person might be from the Faculty of Law or the Department of Philosophy.

The review committee is primarily concerned with the protection of the subjects and the ethical aspects of the proposal, though it also acts in the interests of the investigator and the institution. The review is usually conducted by mail, with only about one-third of the studies necessitating a meeting of committee members, and one month is usually required for approval. Protocols are rarely rejected, but according to Barbara Merkens may be sent back for substantial revision. Merkens chairs most of the review committees, and she described to the *Bulletin* three studies, diverse in nature, but representative of the type of experiments approved by the committees.

Support systems of the elderly

An investigation undertaken by Professor

Albert Rose of the Faculty of Social Work to study support systems of the elderly is an example of low-risk experimentation involving human subjects.

Graduate students under Rose's direction interviewed elderly people living on their own to find out how they take care of themselves and the type of support they get from family, friends, and community agencies. They were questioned on their daily activities, their health care, and how they managed their finances.

As outlined in U of T's *Handbook on the Use of Human Subjects*, the key ethical consideration with a study of this kind "is that the privacy of a person should be invaded only with his consent, and protected at all times. Further, all identified or identifying information obtained from the subject of research is best treated as confidential, and all reasonable efforts should be made to prevent its falling into unauthorized hands."

Discretionary judgements in criminal cases

Ensuring that information obtained from the subject remains confidential is also the key ethical consideration in a Centre of Criminology study co-ordinated by the subcommittee's chairman, Professor Gordon Watson. The study is an investigation of discretionary judgements made by everyone involved in a criminal case, beginning with the officer who makes the arrest, to the judge.

By riding in patrol cars with police, researchers were able to trace the events of a criminal case starting with the

arrest. As the case progressed, they interviewed everyone involved — police, witnesses, crown and defence attorneys, judges, and accused. They found evidence of discretionary decisions being made at every level, from the prisoner who decides how much he will or will not admit, to the prosecutor who has to decide on the charges. The overriding consideration was ensuring the security of the information obtained in the interviews. To this end, Watson's group established a coding system that made it impossible to identify the subjects.

Research into heart attacks

Research designed to find out what goes on during a heart attack is being carried out by Dr. R.S. Baigrie, a cardiologist at the Toronto General Hospital and a member of the staff of the Department of Medicine.

Doctors have long understood that a heart attack damages the left ventricle, the main pumping chamber of the heart. However, in a certain type of heart attack damage also occurs to the right ventricle, the smaller pumping chamber. Dr. Baigrie is investigating how often such damage occurs and how serious it is. His findings may enable doctors to improve the treatment of this type of heart attack, which Dr. Baigrie has found to be much more common than formerly supposed.

"For heart attack patients admitted to hospital with suspected damage on the right side, measurement of the right ventricle's pumping action is taken from inside the heart by means of a small

plastic tube. This invasive procedure is frequently and routinely used in the detection of other heart problems, but is *not a necessary part of the treatment of the patients in this study*. It may well yield information that can be applied to the individual's care, but it would normally not be performed unless his condition had deteriorated," says Merkens.

"The review committee carefully considered the potential risks of this procedure, which included the possibility of infection or the development of abnormal heart rhythm, and concluded that the risks were outweighed by the possible benefit to the patient — and the benefit to society in general as a result of the research."

The key ethical consideration, of course, is the ability to give free and informed consent. As stipulated in the handbook "consent to participate in research should always be freely given without coercion, constraint, or inducement, either actual, implied or imagined". A heart attack victim may be sick, frightened, and under unusual stress.

"The committee will think very carefully before accepting a study approaching someone under stress," says Merkens. "In this case they bent over backwards to make sure the patient understood two things: possible complications and the fact that the procedure was not part of the treatment."

Here comes sleuth Joy Smith on the prowl for historic U of T apparatus



Most of us think of historical resources as paper — the diaries, letters, and official records that historians customarily use as a basis for their work. But to Joy Smith, a museology student working on an inventory of the University's historic scientific and technical apparatus, source materials of the past come in all shapes and substances.

In the fields of pure and applied sciences especially, the University's history depends on artifacts. The apparatus that John Loudon bought in Paris in 1878, for example, was used to establish Canada's first physics laboratory, originally housed in the School of Practical Science. In fact, apparatus of one sort or another has been central to teaching and research in all the University's science and engineering departments and these artifacts now comprise an important historical resource.

Until recently, there was no thought of a general policy to house and protect these materials. The University archives collects papers, but there has been no comparable agency to insure that objects are preserved and made available for study and display. The inventory Joy Smith is working on will change all that. It is the first step in the program of a committee appointed by President Evans this year to survey the University's collections in the history of science and engineering and to make recommendations for their future care and housing. Chaired by Professor Bruce Sinclair, director of the Institute for the History & Philosophy of Science & Technology, the committee's members are Professors Carl Berger of history, Jacques Berger of zoology, G.D. Garland of physics, and

Joy Smith and Professors Jacques Berger (left) and George Garland examine historic scientific and technical apparatus

F.C. Hooper of engineering science; Dean Edward Llewellyn Thomas of medicine; Principal Peter Richardson of University College; University archivist David Rudkin; and Dr. Loris Russell of the Royal Ontario Museum.

Besides the equipment still in departmental storerooms, Smith and the committee are eager to learn of privately-owned materials that are related to the University's history. In many cases, personal intervention saved items from destruction, and the committee would be very glad simply to learn about them.

As Smith has discovered, the history of pure and applied science at U of T is, more often than not, the history of science in Canada. The country's first wind tunnel was established here and names like McLennan, Banting, Best, and Haultain have as much national significance as they do local familiarity.

Some of the artifacts themselves also have obvious importance. Perhaps the most dramatic is the Old Observatory on Hart House Circle. A museum-piece itself, the observatory was part of a world-wide campaign to map terrestrial magnetism. Built in 1855 to replace an 1839 log structure, the stone observatory was moved to Hart House Circle in 1908 from its original location just south of Simcoe Hall. The scientific work carried on here became the basis for the Dominion Meteorological Service, subsequently Environment Canada. And best of all for the inventory, Smith believes the original telescope for the dome still exists.

Intimate faculty-student liaisons are destructive to both participants, says expert

A sexual relationship between a student and a faculty member is destructive to both parties, said Dr. Taylor Statten, chief of psychiatry at the University Health Service, at a colloquium for Scarborough faculty on problems facing the troubled student.

"Although a relationship may have maternal or paternal beginnings," said Dr. Statten, "the student may initiate a more serious involvement. That could be tempting for a middle-aged teacher who might like to dip into the past and re-live the old days."

"The relationship is usually related to unfinished business at home (with the parents) and although sometimes this kind of experience can help, in most cases it ends up as a destructive situation for the staff member and the student."

Responsible advisers

Faculty members must be responsible advisers to students who seek their help, said Dr. Statten, who has been treating U of T students since 1967. "They must encourage students in their search for who they are."

"Students who are held in tight parental control need to be freed up. We can show them that not all adults are like their parents, that people in authority can be helpful and understanding."

Dr. Statten said that a student who approaches a teacher with a problem may send out "trial balloons" before revealing the real issue, which he may find embarrassing.

Lying behind such complaints as an inability to sleep or study is the fear of failure and subsequent loss of self-esteem, said Statten.

"Many students are intelligent people who have worked hard and done little socializing. They are trying to live up to the high expectations of their families. Those trying to get into the professional schools must cope with the pressure of competing with thousands of others. At that point you often begin to see the development of an anxious paranoid person."

In the discussion following Dr. Statten's address, several faculty members voiced the concern that, because classes are large, a student can run into academic trouble without its being detected for two or three months.

"Despite the fact that we pride ourselves on being an open college," said one faculty member, "students are too intimidated to knock on a professor's door. We get few opportunities to talk to them about their problems."

Dr. Statten agreed that faculty with large classes "can hardly assume the responsibility for discerning students' problems". But, when a student does come to a teacher with personal problems "there is nothing wrong with making a suggestion that he or she seek counselling," he said.

Litigious times

"These are litigious times," said Eric McKee, University Ombudsman, pointing to the establishment of bodies like the Tenure Appeal Committee, Grievance Review Panel, and the Office of the Ombudsman.

"All these committees are busy. I am beginning to foresee a situation where this institution will strangle in its own procedures."

"Formal procedures to handle disputes are necessary, but should be used strictly as a last resort. They are costly and almost always produce a residue of ill will."

He suggested that faculty could discuss problems with students in order to help prevent disputes from reaching the litigation stage.

Since he hears only from students who have had bad experiences — about 200 a year — McKee said he doesn't know how typical their problems are. But the students he *does* see "express great shock at the degree to which they are held responsible for their own actions."

"They see the University as an unforgiving place and have little sense of the reality of the administrative process in an institution. They see deadlines as bureaucratic and unreasonable."

"Students who proceed with grade disputes are left bitter and dissatisfied. Few find it convincing to have a paper or exam re-read by the person who graded it in the first place. It simply doesn't wash."

McKee believes the University's response in the area of grade disputes "is the least satisfactory one it makes . . . it only increases the students' sense of bitterness when they don't secure a reasonable response."

Geologist cited for research

Professor Steven Scott of the Department of Geology was awarded the Waldemar Lindgren Citation for Excellence in Research by the Society of Economic Geologists in recognition of his experimental work on sulfide systems as applied to the understanding of ore-forming processes. The award carries a lifetime membership in the society.

This new furnace will mean a revolution in the smelting industry

Steel mills will soon be able to process their waste materials and turn even steel dust into usable metal, thanks to a new furnace developed in the Department of Metallurgy & Materials Science and the Department of Electrical Engineering.

"For centuries, the world's production of iron has been based on the blast furnace process which uses metallurgical coke," says Professor R.S. Segsworth. "However, today there is some doubt as to how long a fossil fuel based process can remain viable, especially if future fission and fusion projects make inexpensive electric power available. These prospects, combined with the need to conserve organic fuels, have sparked considerable interest in developing a truly efficient electrically-based process."

Electric furnaces have been in operation since 1900, Segsworth says, but the processes and equipment are so complex and demand such continual maintenance that they are largely unsatisfactory.

"In a conventional electric furnace, a current is made to pass between two graphite electrodes, or between an electrode and the material to be melted, and an intensely hot (8,000 - 9,000°C) arc of flame is produced."

"But the arc is noisy, unstable and gives a great deal of trouble to the people supplying the electric power. U of T made an initial stab at improving the electric furnace four years ago when it developed the 'stabilized arc' by injecting a gas such as argon into the arc zone to steady the flame."

"Then, a new furnace — the Extended

Arc Flash Reactor (EAFR) — was developed using the 'stabilized arc', and what resulted was a simple, rugged, and extremely reliable smelting furnace.

"Several of our students have demonstrated that with the EAFR it is possible to produce high grade ferrochromium and stainless steel from low-grade ores available here in North America. Generally speaking, all the chromium used in North America is produced from higher-grade ores imported from Rhodesia or South Africa. If we could free this continent from dependence on what are basically unreliable sources, we'd have accomplished something worthwhile indeed."

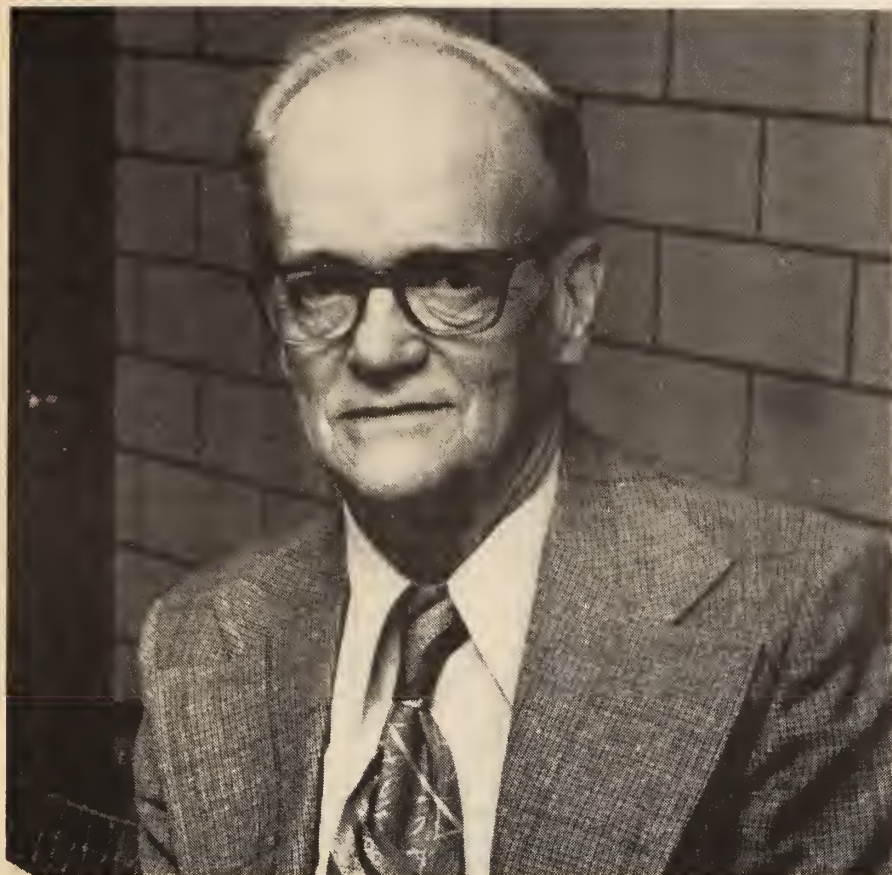
"Another group of students has recovered zinc and lead from electric furnace 'bag house' dust — a waste

product which is both a nuisance and potentially toxic because of the lead content, especially once it's dumped into lakes and rivers and finds its way into our drinking water."

"But probably the most important application of the EAFR is the conservation of resources that will result from processing steel plant waste oxides, 'fly ash' and other materials previously thought unusable. These waste products exist in abundance, and in the future it will not be possible to store them economically or to neglect the metal they contain."

Apart from the details of the furnace itself, no new technology is involved. "This means that even small operations should be able to utilize the EAFR," says Segsworth.

Tom Storton came as a boy and is leaving Chemical Engineering 49 years later



Tommy Storton was 15 when the stock market crashed in 1929 and his father was thrown out of work. Because he was the family's eldest boy, he left school to help support the family. Fortunately, he found work as a lab assistant in the University's chemical engineering department. His job involved keeping the labs clean and his pay was eight dollars a week.

Now, 49 years later and after numerous promotions, Tom Storton is retiring at the end of the month as the Department of Chemical Engineering's technical services co-ordinator.

What are the most significant changes he's witnessed?

"Working conditions and salary have improved no end. We used to work harder in a day than we do now in a week.

"When I started, there were four professors, compared to 28 now, and there was a very strong class distinction between faculty and support staff. We were still feeling the influence of the Victorian era. In some departments, no one who didn't have a degree would dream of speaking to someone who did, unless spoken to first. Now everyone, at least in this department, functions on a first-name basis."

Leaving school back in 1929 wasn't the end of Tom's formal education. He spent the next 14 years going to night school. At Central Tech. and Harbord Collegiate he took electrical, electronics, and academic courses, and at Central Commerce he learned typing and bookkeeping.

"We've been reaping the benefits ever since," says Professor W.F. Graydon, former chairman of the department. "He came here as a boy and is leaving as a central authority."

Tom is responsible for co-ordinating the activities of the department's instrument lab, glass blowing lab, machine shop, and electronics shop, and for ordering all supplies from bookshelves to bunsen burners.

"He's really served the department well," says Professor James W. Smith, assistant chairman of the department. "He's methodical, meticulous and very protective of his staff. He takes responsibility for them, no matter what they do. I don't think anyone has ever quit over a disagreement with him. He has the men in his office every morning for coffee and a chat. It's mostly social, but he also wants to make sure there are no problems. I'm sure that helps account for our extremely low turnover rate."

Stores keeper Matt Anderson says he and Tom Storton "haven't always seen eye to eye" over the 20 years they've been working together but they've always managed to work out their disagreements.

"He's the type you can go and talk things over with — humane and understanding without being soft. You sure can't put one over on him."

Tom is conscientious, honest, and fair, testifies glass blower Fred Leslie, a 10-year veteran of the department.

"There have been times when he's had to bring someone down a peg or two but it's always been justified and he's never done it in a mean way."

To instrument lab supervisor Ken Adams, Tom has been "more than a boss" over the past 15 years.

"He's a friend and confidante who's given me a lot of encouragement. Make no mistake, we haven't agreed all the time. We've had our arguments. But he's always absolutely fair.

"It's a pity he can't stay on a bit longer. He's an extremely useful man to have around. There's not much he can't do once he's set his mind to it. He's a good all-round fellow. And he's not afraid to get his hands dirty. He runs the multilith machine with the best of them."

Tom's been on the job so long he knows all the answers and he's had to deal with all types of people so he's learned to roll with the punches, says machine shop supervisor John Aslin, who's had 21 years to observe Tom in action.

Says Tom himself, "I've worked under three heads and two chairmen, and since no two men think alike, I've had to change with the times. That's kept it interesting."

Still, working with Tom wasn't always easy, says former chairman Graydon.

"I admire Tom very much. He's bright and tremendously loyal but there's an element of the bittersweet about him. He hasn't been a man who simply did what he was told. He stood up for his convictions and, in retrospect, I guess I'd have to say he was usually right. There's no question he saved us untold amounts of money by opposing the purchase of things we didn't really need and by finding less expensive but adequate substitutes for the things we did.

"He's devoted his life to the department and been an exceptional man in the job. In fact, I would say he's irreplaceable."

Majority principle rejected

Continued from Page 1

— "that the Governing Council exercise its powers through judging matters of broad policy and through monitorial functions";

— "that the Governing Council and its committees while retaining the authority to take any action that is appropriate, normally limit themselves to approval, rejection, or referral-back of items before them";

— "that the Academic Affairs Committee and the Planning & Resources Committee not be merged";

— "that the External Affairs Committee and the Internal Affairs Committee be merged to become the Committee on Campus & Community Affairs";

— and "that the Governing Council normally initiate and act on policy matters only after receiving the advice of the President".

Before voting on the question of whether or not to merge the External and Internal Affairs Committees, the council was informed by three representatives of local community

organizations that the merger would result in a further downgrading of the neighbourhoods surrounding the University and would exacerbate what one described as "the incredible lack of communication between the University and the communities around it".

In other business, the revised *Report of the Working Group to Formulate Policies for Librarians* was sent back to the Academic Affairs Committee in order that the wording of a clause concerning procedures related to the dismissal of librarians for fiscal reasons could be revised.

The council roundly applauded President Evans' announcement that Professor Northrop Frye has been given the Royal Bank Award for this year.

The next meeting of the council is slated for June 15.

Governing Council — May 18 (including action taken at committee level)

- approved all but one of the recommendations of the Executive Committee concerning the *Review of the Unicameral Experiment*; see preceding story for details
- approved appointment of Professor W.E. Alexander as vice-president — internal affairs to take effect July 1
- approved appointments of Professor J.F. Leyerle as dean and Professor R.H. Painter as acting dean, at the School of Graduate Studies, both appointments effective July 1. As Professor Leyerle will be on leave until January 1, 1979, Professor Painter will assume duties as acting dean for the six month interval.
- approved 1978-79 residence rates for St. George campus, Scarborough and Erindale College
- approved 1978-79 budgets for Royal Conservatory of Music of Toronto and Frederick Harris Music Company Limited
- the chairman announced that the Installation of the President would take place on Thursday, September 28, in Convocation Hall

Gerontology co-ordinator sought

The President has appointed a search committee to recommend a co-ordinator for the Interdisciplinary Program in Gerontology. This will be a four year term commencing January 1, 1979.

The membership of the committee is:

Dr. Edward Kingstone, Vice-Provost — Health Sciences, chairman; Associate Dean J.F. Hastings, Faculty of Medicine, co-chairman; Wilson Abernathy, Senior Alumni Committee; Lawrence Crawford, director, Senior Citizens Branch, Ministry of Community & Social Services; Professor A.W. Fales, OISE; Dr. R.W. Fisher, Sunnybrook Medical

Centre; Dean M.K. King, Faculty of Nursing; Professor Abbyann Lynch, Department of Philosophy, St. Michael's College; Professor Albert Rose, Faculty of Social Work; Dr. Stephen Griew, chairman, Department of Behavioral Sciences; Leslie Reed, Associated Medical Services Foundation; Dr. J.R. Hitchcock, Centre for Urban & Community Studies; Dr. Trudy McNabb, secretary of the committee.

The committee will welcome suggestions of names to be considered. These may be submitted, preferably in writing, to the chairman or to any member of the committee.

Urban & Community Studies seeks director

Following a review of the activities of the Centre for Urban & Community Studies, the review committee recommended the continuation of this centre for a further five year term. A report to this effect was presented to the council of the School of Graduate Studies and will be debated at the May 16 meeting of the SGS council.

In order to expedite the search for a director for the coming five years, a search committee has been appointed. Members of the search committee are: Professors R.H. Painter, School of Graduate Studies (*chairman*); John Britton, Department of

Geography; J.B. Cullingworth, Department of Urban & Regional Planning; T.C. Kenney, Department of Civil Engineering; W.M. Michelson, Department of Sociology; and David Nowlan, Department of Political Economy.

Nominations and recommendations for the position of director, which is a half FTE cross-appointment in the centre, may be made to any member of the committee. Copies of the report of the review committee may be obtained from the chairman of that committee, Dean R.H. Painter, at the School of Graduate Studies, 65 St. George Street.

Staff termination, professional development to be reviewed by new subcommittees of Personnel Policy Board

The establishment of two subcommittees of the Personnel Policy Board — one to review policy and procedures relating to administrative staff whose positions have been terminated for fiscal reasons and the other concerned with professional development of administrative staff — has been announced by Professor Frank Iacobucci, vice-president — internal affairs, and chairman of the policy board.

Because of the importance of the problem, the subcommittee dealing with termination for fiscal reasons has been asked to have an interim or final report ready by the end of June if possible. The professional development group is expected to submit a report by September 1.

The subcommittee reviewing the termination of administrative staff for fiscal reasons, chaired by Dean W.E. Alexander of the Faculty of Pharmacy, will be concerned with enforcing the University's commitment — emphasized by the Governing Council and reiterated in the President's letter to heads of all academic and non-academic divisions — that every effort must be made to minimize the impact of such terminations on the individuals concerned.

To facilitate its work the subcommittee urges all individuals who were affected by this year's budget and staff reductions to make submissions to the members of the subcommittee on the effectiveness of the policies adopted this year. Such information will be vital to the subcommittee in framing its report, which will be designed to meet similar problems in the next fiscal year. The review will include consideration of the existing termination policy in the *Manual of Staff Policies* and of various statements made by the administration relating to policy in this area.

The subcommittee established to develop a program for professional development and education for administrative staff, chaired by Principal Paul Fox of Erindale College, will be chiefly concerned with setting up guidelines for staff participation in workshops, seminars, and conferences presently excluded from the existing educational assistance program and not part of the training programs offered by the Personnel Department. Included in the investigation will be the matter of financial support for participants.

The members of the subcommittee

to examine policy and procedures relating to professional development are Principal Paul Fox, Erindale College, *chairman*; Jean Orr, technician, Department of Biochemistry; D.R. Herbert, admissions officer, Operations & Research; W.C. Hooper, Personnel Department; Professor R.L. Armstrong, chairman, Department of Physics; David Keeling, director, academic records, Faculty of Arts & Science; Prudence Tracy, editor, U of T Press; Beverley Chennell, Personnel Department, *secretary*.

Members of the subcommittee to examine policy and procedures relating to administrative staff whose positions have been terminated for fiscal reasons are: Dean William Alexander, Faculty of Pharmacy, *chairman*; G.E. Altmeyer, associate registrar, Woodsworth College; Richard Brott, assistant to the dean, Faculty of Arts & Science; W.C. Hooper, Personnel Department; Professor David Strangway, chairman, Department of Geology; Peter DiTocco, manager, administration, Physical Plant; Pat Staton, administrative assistant, Department of Biochemistry; Penny Tai-Pow, Personnel Department, *secretary*.

Library cards still valid

Your current library card will be validated for use during 1978-79. Please do not destroy it.

From Sept. 1, 1978 a charge of \$2 will be made to replace a lost or damaged library card.

Free campus tours June through August

Free guided walking tours of the St. George campus begin June 1 and continue until Sept. 1 — weekdays at 10.30 a.m., 12.30 p.m. and 2.30 p.m. The tours start at Hart House in the Map Room, where a 10-minute videotape presentation introduces visitors to the campus.

This year the hour-long tours will be guided by U of T students Deni Gerson and Joan Vandervelden, and by senior alumni volunteers.

The tours are sponsored by the U of T Alumni Association.

Inuit/Indian project needs your help

The history and heritage of Canada's native peoples will be the subject of an Indian/Inuit cultural event, scheduled to take place on the St. George campus this summer.

A multi-media production, the event will deal with a variety of subjects from architecture and education, to religion and mythology.

The Ad Hoc Committee for Cross Cultural (Native and Non-Native) Communication, sponsor of the event, invites U of T faculty, staff, and students who are interested in native education/studies to assist in making the event a success.

For further information, telephone Elizabeth Mason at 483-5318 or Marvi Bradshaw, community relations officer, at 978-6564.

Annual violin competition at music



Wendy Rose (l) and Gisele Dalbec

Wendy Rose, final year student in the bachelor of music performance degree program, was the winner of the fourth annual Remeny Award Competition held at the Faculty of Music on April 16. First prize is a new violin built by a contemporary Hungarian luthier.

A student of Lorand Fenyves, Wendy Rose was concertmistress of the National Youth Orchestra of Canada last summer. Next year, as a result of winning the competition, she will perform a number of professional engagements.

Gisèle Dalbec, also a student of Fenyves in the final year of the performance degree program, won second prize — a hand crafted silver mounted bow.

The panel of judges was made up of Kenneth Perkins, Terence Helmer, and Marcel St-Cyr of the Orford Quartet, and Professors Vladimir Orloff and Ezra Schabas.

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What to give a retiring President?

Continued from Page 1

artfully arranged corsage of mushrooms, broccoli, carrots, and tomatoes; and the proceedings began with a vocal fanfare, to the tune of "Old Macdonald had a farm", which included the couplet:

"It falls to Simcoe Circle's lot,
E-I-E-I-O
To shovel out the you know what,
E-I-E-I-O".

"John's shovelling experience at the farm will stand him in good stead in Ottawa," stated Professor Iacobucci.

Speaking on behalf of the faculty, Lorna Marsden, chairman of the Department of Sociology, marvelled that "Gay actually seems to enjoy entertaining the hordes of people who regularly troop through the President's house. She is gracious even to the negotiating team of the faculty association."

As Dr. and Mrs. Evans leave the University, Marsden noted, "like so many of our graduates, they are facing unemployment. But, as we are telling hundreds of young men and women, 'with your talents, you won't be unemployed for long'."

Alumnus and member of the Governing Council John Whitten commended the President for the enthusiasm he brings to every task and for his ability to persuade volunteers to act on the University's behalf.

"I myself suffer from what is referred to in Toronto area hospitals as the Evans syndrome — a slight swelling of the elbow that results from a vigorous twisting of the wrist by the President," declared Whitten, who, as the occasion's token Conservative, presented Dr. Evans with a pair of mis-matched running shoes, suitable for running both by the Rideau Canal and through Rosedale.

Preliminary to giving the guest of honour a rosette and ribbon of the kind usually awarded prize-winning livestock,

student Michael Treacy announced he felt sure that Dr. Evans was destined for high office — Minister of Agriculture in the next federal government.

"We come now to the dignified part of this program," said Chancellor Arthur Moore. "I offer a salute to this distinguished farmer, surely the only farmer in history to run against a mare."

When Dr. Evans graduated from medicine at the University, Dr. Moore continued, the beadle, Leonard Smith, quickly withdrew the hood from his shoulders, "not satisfied that he would make it".

Whereupon, 26 years later, with the retired beadle's active co-operation, a hood was duly produced and presented.

After extolling Mrs. Evans' virtues with the help of the Book of Proverbs, Marnie Paikin described Dr. Evans with "a good Yiddish word, *mensch*. He is an honourable, upright, decent person — someone to admire and emulate," she said.

Presenting the President with a four-legged oak stool, the Governing Council chairman confessed that "this is supposed to be a three-legged, pine milking stool, but this is not an agricultural college and what do we know?"

"I've always wanted a chair at the University of Toronto," laughed Dr. Evans, who thanked all present for their well wishes and, pointing to his vegetable corsage, said that he hadn't realized he would be getting both a reception and a dinner at the same time.

"I am indebted to each of my colleagues for what they have taught me," the President said. "I am only sorry that I haven't been able to solve as many of the University's problems as they and I would have hoped."

Next VP — Internal is W.E. Alexander

William Edward Alexander, Dean of the Faculty of Pharmacy since 1974, has been appointed Vice-President — Internal Affairs, effective July 1. He succeeds Professor Frank Iacobucci who is taking a year's sabbatical to serve as a visiting fellow at Wolfson College, Cambridge, and to do research into certain aspects of corporate law, with emphasis on the private company.

Dean Alexander was born April 19, 1934, in North Battleford, and received his BSc in pharmacy "with great distinction" from the University of Saskatchewan in 1958. After earning his MSc in 1960, he went to the University of Sydney, where he was awarded a PhD in 1965.

He joined the Faculty of Pharmacy at the University of Manitoba in 1965 and, in 1970, held a joint appointment as associate professor of pharmacy and executive assistant to the president of the university.

Since coming to Toronto, he has served on two subcommittees of the Governing Council: the Curriculum & Standards Subcommittee of the Academic Affairs Committee and the Planning & Priorities Subcommittee of the Planning & Resources Committee. He has also served on the Personnel Policy Board since its establishment in 1975.

He is chairman of the registration committee of the Ontario College of



Pharmacists, a member of the Medical Research Council of Canada, immediate past-president of the Association of Faculties of Pharmacy of Canada and the Association of Deans of Pharmacy of Canada, and a former board member of the Canadian Foundation for the Advancement of Pharmacy. This spring, he was presented with a constituency award by the Alumni Association.

Dean Alexander is married and has three children, aged seven, five, and five weeks. His leisure activities include swimming and tennis.

John F. Leyerle named SGS dean

John Leyerle, who has taught English at the University since 1959, has been appointed dean of the School of Graduate Studies. He succeeds Dean James Ham, who takes office as President July 1. Because Professor Leyerle was awarded a Connaught Fellowship for 1978-79 and will be out of Toronto during the fall term, he will not start work as dean until Jan. 1, 1979. In the interim, Professor Robert Painter, now assistant dean of the School of Graduate Studies, will be acting dean.

Prof. Leyerle was born Nov. 18, 1926, in Syracuse, N.Y., and received his BSc in electrical engineering from the United States Naval Academy. He holds an MA in English language and literature from Oxford and a PhD in comparative literature from Harvard. In 1972 he was awarded an honorary DLitt by Western Michigan University.

Recently elected as a fellow of the Medieval Academy of America, he has been a visiting professor of English at Harvard and Yale, and a senior fellow, Society for the Humanities, Cornell University.

Leyerle has published extensively, including studies on *Beowulf*, Dante, and Chaucer. In 1975, he wrote *Humane Perspectives for a Changing World*, an interim report to the Canada Council Commission by the University task force on graduate studies in the humanities and social sciences.

He holds several editorial positions which include being general editor of *Toronto Medieval Bibliographies* and chairman of the editorial board of *Speculum Anniversary Monographs*.

"One of his major contributions to the University," says President-designate Ham, "has been as director of the Centre for Medieval Studies. During his leadership, it has become the leading centre of medieval studies in the western world."

Leyerle's hobbies include cutting firewood, gardening, jogging, and renovating old buildings, currently a stone farmhouse in Mono Township. He is married to the former Mary Ellen Parry, who works in the University's Department of Health Administration, and they have four children.

New library science dean sought

The President has appointed a search committee to recommend a dean of the Faculty of Library Science. The committee is being formed at this time as Dean Frances Halpenny will be taking up her new appointment with the U of T Press on January 1, 1979.

The membership of the committee is:

Professor R.W. Missen, vice-provost, chairman; Nouchafarine Ansari, Faculty of Library Science; Professor C.D. Cook, Faculty of Library Science; Eileen

Daniel, Faculty of Library Science; I.R. Dutton, Faculty of Library Science; Dean M.L. Friedland, Faculty of Law; Betty Hardie, Director of Public Libraries, Borough of Etobicoke; Professor E.T. Jarvi, Faculty of Library Science; Associate Dean P.D. Kerr, School of Graduate Studies; Professor R.B. Land, Faculty of Library Science; Professor A.H. Schabas, Faculty of Library Science; Professor F.W. Watt, Department of English; Professor N.J. Williamson, Faculty of Library Science; and Norma Stewart, secretary.

The committee will welcome suggestions of names to be considered. These may be submitted, preferably in writing, to the chairman or to any member of the committee.

Support to library

Over the past fifteen years the University library has been collecting the papers of Canadian literary figures. The collection now constitutes one of the largest resources of primary research material for the study of Canadian literature in the country and includes manuscript collections of Earle Birney, Margaret Atwood, Mazo de la Roche, Raymond Souster, John Newlove, Leonard Cohen, Ernest Buckler, Gwendolyn McEwen, Joe Rosenblatt, Josef Skvorecky, Irving Layton and others.

Because of the financial stringencies which drastically reduced the purchasing power of the library's book budget over the last few years it has been impossible to expand the existing collection with library funds.

However, a grant from Wintario, and matching funds provided by Update, have now made possible the continuation of this collection.

Exchange program at landscape architecture

Second year students in the Department of Landscape Architecture recently took part in a design workshop with 14 visiting students from the Conway School of Landscape Design in Massachusetts. Groups of students from both schools collaborated on the analysis and design of St. James Square in South Regent Park. At the end of the three day workshop, alternative design solutions were presented to a session of visiting critics, staff and students. The project was launched by Walter Kehm, visiting lecturer in landscape architecture, who has been involved with the design and evaluation of St. James Square since 1969.

To complete the exchange program, 15 students from U of T visited the Conway School in late April. In contrast to Toronto and its program, Conway is situated in a rural community and offers an intensive one year program to a small number of students. Emphasis is on student involvement in professional

projects and while no marks are given students are able to proceed into graduate programs with advanced standing.

Stratford trip

Hart House is offering a trip to Stratford to see Maggie Smith and Brian Bedford in Noel Coward's *Private Lives* on Thursday, July 13. The cost of \$27.50 per person covers an orchestra seat at the Avon Theatre, air-conditioned bus trip with deluxe box supper served on board, tour of the Avon River area, and coffee and cookies before the return trip. The bus will leave Hart House at 5.30 p.m. for the eight o'clock performance.

All members of the University community are welcome. Reservation forms are available from the program office, telephone 978-5361. Deadline for reservations is Wednesday, May 31.



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Events

Tuesday, May 23

Opera Excerpts, third of six programs. Production by Opera Department of *Cox and Box* by Arthur Sullivan, and scenes from *Orfeo ed Euridice* (Gluck), *Don Pasquale* (Donizetti), *Eugene Onegin* (Tchaikovsky) and *La Traviata* (Verdi).

Programs presented staged and costumed, piano accompaniment. MacMillan Theatre, Edward Johnson Building. 8 p.m. Tickets \$1 available from box office from 5 p.m. evening of performance. Information, 978-3744.

Wednesday, May 24

Oxidation-Reduction and Metal Catalysis of Organic Reactions, colloquium. Prof. J.K. Kochi, Indiana University. 158 Lash Miller Chemical Laboratories. 3.30 p.m. (Please note time.)

scenes from *Orfeo ed Euridice* (Gluck), *Hansel and Gretel* (Humperdinck) and *La Traviata*, (Verdi). Programs presented staged and costumed, piano accompaniment. MacMillan Theatre, Edward Johnson Building. 8 p.m. Tickets \$1 available from box office from 5 p.m. evening of performance. Information, 978-3744.

Opera Excerpts, fourth of six programs. Production by Opera Department of *The Secret of Suzana* by Wolf-Ferrari, and

Thursday, May 25

History of Economics Society, fifth annual conference, May 25 to May 27. Registration: Wednesday, May 24, Croft Chapter House, 7.30 to 9 p.m.; Thursday, University College, 8.30 to 9 a.m. Registration fee \$46, includes session papers and banquet ticket. Information, 978-3333. Sessions May 25: *Applications of the History and Philosophy*

of Science to the History of Economics, 9 a.m. *The History of Sub-Disciplines of Economics*, 11 a.m. *Writing the History of the Economics of Living Economists*, 1.30 p.m. *Classical Economics: The Reinterpretation of the Last 25 Years — Where Does It Leave Us?*, 3.30 p.m. East Hall, University College.

Friday, May 26

Peptides, Inside and Out, colloquium. Prof. K.D. Kopple, Illinois Institute of Technology. 158 Lash Miller Chemical Laboratories. 3.30 p.m.

Landscape Architecture for the professional community. May 26 and 27. Registration fee \$15. Information, 978-3103.

History of Economics Society, conference. May 25 to 27. Information and registration, see listing Thursday, May 25. *Topics in the History of Marginal Economics*, 9 a.m. *History of Capital Theory*, 11 a.m. *Contributed Papers*, 1.30 p.m., will be concerned with methodology, institutional-historical economics, micro-economics and macroeconomics. East Hall, University College.

(Landscape Architecture and Ontario Association of Landscape Architects)

Opera Excerpts, fifth of six programs. Production by Opera Department of *Riders to the Sea* by Ralph Vaughan Williams, and scenes from *Don Pasquale* (Donizetti), *Faust* (Gounod), *Hansel & Gretel* (Humperdinck) and *The Barber of Seville* (Rossini). Programs presented staged and costumed, piano accompaniment. MacMillan Theatre, Edward Johnson Building. 8 p.m.. Tickets \$1 available from box office from 5 p.m. evening of performance. Information, 978-3744

New Directions in Landscape Architecture, workshop. Two-day workshop at Department of

Saturday, May 27

History of Economics Society, conference. May 25 to 27. Information and registration see listing Thursday, May 25. *Roundtable on New Resources for Teaching and Research on the History of Economics*, 9 a.m. East Hall, University College.

(Humperdinck), *Eugene Onegin* (Tchaikovsky), *Gloriana* (Britten), *The Rake's Progress* (Stravinsky) and *The Barber of Seville* (Rossini). Programs presented staged and costumed, piano accompaniment. MacMillan Theatre, Edward Johnson Building. 8 p.m. Tickets \$1 available from box office from 5 p.m. evening of performance. Information, 978-3744.

Opera Excerpts, last of six programs. Production by Opera Department of scenes from *Hansel & Gretel*

Sunday, May 28

Music for the Double Bass, fifth annual Donald McMurrich Memorial Concert. Wray Downes and David Young, piano and double bass duo, will be joined by double bassists Charles Elliott, Jan Urke and Stephen McLelland, with guitarist Ed Bickert in mixed program of classical

and jazz works. Walter Hall, Edward Johnson Building. 3 p.m. (The Donald McMurrich Scholarship Fund was established to assist a promising double bass student at either the conservatory or the faculty.)

Tuesday, May 30

Ionization and Appearance Potentials in Structure Analysis. A Rapid and Precise Mass Spectrometric Method to Assign Configurations and/or to Determine Relative Stabilities of Structural Isomers, colloquium. Prof. K. Pihlaja, State University of New York, Potsdam. 158 Lash Miller Chemical Laboratories. 3.30 p.m. (Please note time.)

June Institute on Modern Astronomy and Astrophysics, 12th annual lecture series, May 30 to June 2. Five visiting astronomers will present a total of 16 lectures on topics related to recent developments in their fields. Lectures are at graduate level and some background in physics and astronomy is assumed. Interested members of the University, who are especially invited to attend and participate, need not register

Tuesday, May 30

unless they wish to attend evening social events. Registration, Monday, May 29 in 1403 Burton Tower, McLennan Physical Laboratories, 2 to 4.30 p.m.; Tuesday, May 30, outside 102 McLennan Physical Laboratories, 8.45 to 9.15 a.m. Registration and information, Prof. John R. Percy, Department of Astronomy, 978-3146. Lectures Tuesday, May 30: *Emission Line Galaxies*, Prof. Daniel Weedman, Vanderbilt University,

9.30 a.m.; *What Is Learned from the Statistics of Galaxy Positions and Velocities I: The Past*, Prof. James E. Peebles, Princeton University, 11 a.m.; *Dynamical Evolution of Galaxies and Clusters of Galaxies I: Dynamical Principles*, Prof. Jeremiah P. Ostriker, Princeton University Observatory, 2 p.m.; *The Density Wave Theory of Spiral Structure: An Update*, Prof. Frank H. Shu, University of California, Berkeley, 3.30 p.m. 102 McLennan Physical Laboratories.

Wednesday, May 31

Cell Surface-Sialic Acid Components, seminar. Dr. A. Rosenberg, Milton S. Hershey Medical Center, Pennsylvania State University. 5227 Medical Sciences Building. 12 noon. (Biochemistry)

June Institute on Modern Astronomy and Astrophysics, 12th annual lecture series. Information and registration, see listing Tuesday, May 30. *Seyfert Galaxies*, Prof. Weedman,

9.30 a.m.; *What is Learned from the Statistics of Galaxy Positions and Velocities II: The Present*, Prof. Peebles, 11 a.m.; *Dynamical Evolution of Galaxies and Clusters of Galaxies II: Application to Real Clusters*, Prof. Ostriker, 2 p.m.; *Various Problems of Star Formation*, Prof. Shu, 3.30 p.m. 102 McLennan Physical Laboratories.

Thursday, June 1

June Institute on Modern Astronomy and Astrophysics, 12th annual lecture series. Information and registration, see listing Tuesday, May 30. *New Surveys of Quasars*, Prof. Weedman, 9.30 a.m.; *What is Learned from the Statistics of Galaxy Positions and Velocities III: The Present*, Prof. Peebles, 11 a.m.; *Thermal Radio Emission from Single Stars*, Dr. Paul A. Feldman, Herzberg Institute of Astrophysics, National Research Council of Canada, 2 p.m.; *Mass Transfer in Close Binaries*, Prof. Shu, 3.30 p.m. 102 McLennan Physical Laboratories.

Fourth International Conference on Bone Measurement, June 1 to 3. Approximately 130 scientists from 13 different countries will take part in the meeting. Bone measurement involves clinicians, radiologists, physicists and biochemists; at Toronto these are joined in the Calcium Task Group of the U of T (CATGUT) which works on problems of bone and calcium, very common in the elderly and occurring in the younger population as well. All sessions will be held in the auditorium of the Medical Sciences Building. Information, Prof. K.G. McNeill, 7326 Medical Sciences Building, 978-6086.

Friday, June 2

June Institute on Modern Astronomy and Astrophysics, 12th annual lecture series. Information and registration, see listing Tuesday, May 30. *The Redshift Controversy in 1978*, Prof. Weedman, 9.30 a.m.; *What Is Learned from the Statistics of Galaxy Positions and Velocities IV: The Future*, Prof. Peebles, 11 a.m.; *Variable Radio Emission from Binary Systems*, Dr. Feldman, 2 p.m.; *The Structure of Contact Binaries*, Prof. Shu, 3.30 p.m. 102 McLennan Physical Laboratories.

How to Use Chemical Abstracts with Volume Indexes, workshop. Designed primarily for scientists, educators, students, librarians and information specialists who use *Chemical Abstracts* (CA) and would like to improve their skills. Those involved with Chemical Abstracts Service (CAS) computer-readable files will also benefit by attending. Sessions will give instruction on effective use of CAS printed publications and efficient approaches to searching printed CA with volume indexes, and information on improvements in CAS printed publications.

Each participant will receive a copy of *CAS Printed Access Tools* (workbook presenting solutions to common research problems requiring use of CA, its indexes and related CAS publications) to use during the workshop and to keep for reference. Workshop will be conducted by Dr. Frederick R. Vaughan, senior editor in chemical substance handling department of the publications division at CAS, with instructors from CAS technical staff. Group seminar room, "A" level, Sigmund Samuel Library from 9.30 a.m. Workshop will last 4 to 5 hours and will be limited to 35 participants. Registration at reference desk, Science & Medicine Library, or telephone 978-8617. (Advisory Committee on Educational Development and Science & Medicine Library)

Convocation. Faculties of Dentistry, Nursing and Pharmacy, and School of Physical & Health Education. Convocation address will be delivered by Dr. Louis Simonovitch, Department of Medical Genetics, and 1978 U of T Alumni Association Faculty Award winner. Convocation Hall. 2.30 p.m.

Saturday, June 3

Spring Reunion. Honoured years 0T8, 1T8, 2T8, 3T8 and 5T3. Hart House and environs: campus tours by bus and buggy, Blue & White Alumni Band, carillon concert, luncheon in Great Hall. Buses from Hart House for annual President's garden party. Other special class and college reunions as arranged. Information, 978-2366.

Monday, June 5

Review of undergraduate program, arts & science, open meeting for part-time students. Members of the Decanal Committee to Review the Undergraduate Program in the Faculty of Arts & Science will hold a special open meeting. All part-time students are welcome to attend and express opinions. The Rev. John M. Kelly, chairman of the committee, will act as chairman for the meeting. 302 Woodsworth College. 5 to 7 p.m.